Information Request: DTE-1-10

September 23, 2005

Person Responsible: Max A. Gowen

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## Information Request DTE-1-10

Please refer to Attachment 6 of the Company's filing.

- (a) Discuss the decision-making process that the Company engages in when purchasing gas for storage during the off-peak season.
- (b) Include in the discussion a list of all factors that the Company considers when determining the appropriate amount and price at which gas is procured for injection, as well as the factors which determine the timing of injection and withdrawal of gas from storage.
- (c) Show graphically, and on a monthly basis, the amount of gas that the Company injected or withdrew from storage for each of the past five years.
- (d) Show graphically, and on a monthly basis, the amount of gas that the Company withdrew from storage for each of the past five years expressed as a percentage of the Company's total sendout for each month.
- (e) Discuss whether or not futures and options may be helpful tools in procuring gas for storage.

## Response

- a) Purchasing gas for injection during the summer season is set out in the portfolio management contract. Under the contract, NSTAR pays the portfolio manager for 1/7 of the summer injection quantity for each of the 7 summer injection months. The price is set using the same formula as monthly baseload purchases in the supply area, adjusted for the variable pipeline and storage charges for transporting and injecting the gas into storage. This provides the portfolio manager an opportunity to optimize the injection program for its own account, and thus bid a higher portfolio management fee for the right to manage the portfolio.
- b) As noted in the response to DTE-1-10(a) above, the Company realizes additional value by allowing the portfolio manager to optimize the storage injections. The Company pays for storage injections under the terms of its contract with the portfolio manager.
- c) See Chart DTE-1-10 C, below.
- d) See Chart DTE-1-10 D, below.

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e) The use of futures contracts or options can be useful to mitigate price volatility in the market, but may also involve costs and risks that would have to be carefully evaluated in devising a price-volatility plan to be applied to storage supplies. The Department has approved the use of commodity purchasing tools for pipeline supplies that have the effect of averaging or "laddering" commodity prices over some period of time for purposes of mitigating price volatility. Although this approach could be used to purchase storage supplies as well as pipeline supplies, storage supplies are already purchased in monthly increments, which achieves the "laddering" effect sought by the Department to manage price volatility.

Chart DTE-1-10 C

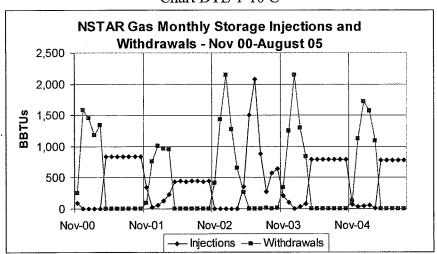
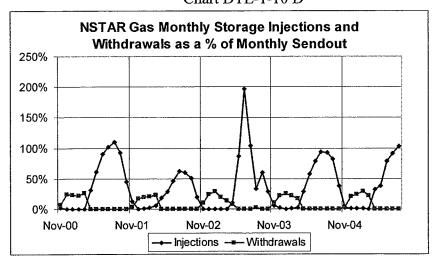


Chart DTE-1-10 D



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Information Request: DTE-1-11

September 23, 2005

Person Responsible: Max A. Gowen

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## <u>Information Request DTE-1-11</u>

Please refer to Attachment 6 of the Company's filing. For each of the storage facilities in NSTAR's portfolio, provide a narrative of any restrictions (seasonal or otherwise) that affect the level of gas injections or withdrawals.

## Response

Most of the Company's storage contracts are subject to withdrawal and injection ratchets. Under a withdrawal ratchet, the full MDQ is available until the inventory drops to a specific percentage of the maximum storage capacity. The withdrawal MDQ drops to a certain percentage of the full MDQ when the first ratchet level is obtained. Different contracts have different numbers of withdrawal ratchets. Injection ratchets work in a similar manner. The maximum injection quantity can be injected from empty up to the first injection ratchet level. Once inventory levels reaches the ratchet level, the maximum quantity that can be injected is reduced. Most storage contracts have only two injection levels, although some contracts have only one maximum injection quantity.

For the Texas Eastern SS-1 and FSS-1 rate schedules, full MDQs are available until the inventory level falls to 20 percent of the storage capacity. Between inventory levels of 10 and 20 percent of storage capacity, the effective MDQ is reduced to 5/6 of the MDQ. Below the 10 percent inventory level, the effective MDQ falls to 2/3 of the full MDQ. There are no injection ratchets on the Texas Eastern storage contracts.

For the Dominion GSS rate schedule, full MDQs are available until the inventory level reaches 35 percent of capacity. Between 35 and 16 percent of capacity, the effective MDQ is reduced to 92 percent of the full MDQ. Between 16 and 10 percent of capacity, the effective MDQ is 70 percent of the full MDQ. At less than 10 percent of capacity, the effective MDQ is reduced to 63 percent of the full MDQ. On the injection side, the maximum storage injection quantity (which is equal to the total storage capacity divided by 180) is available when inventory is below 50 percent of capacity. When inventory is greater than 50 percent of maximum capacity, the maximum injection quantity is equal to the maximum storage capacity divided by 214. There are other provisions in the Dominion tariff that limit monthly withdrawals to the MDQ times the number of days in the month times 87.5 percent. There are minimum monthly daily storage balances for December (35 percent of capacity), January (35 percent of capacity), and February (15 perent of capacity). By April 15 of each year, the customer must have withdrawn a total amount of gas sufficient to reduce inventory to 35 percent of capacity. The details of these provisions can be for in the Dominion tariff under Rate Schedule GSS.

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Person Responsible: Max A. Gowen

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The Tennessee FS-MA Rate Schedule has demand ratchets, but they do not have a large impact on normal NSTAR operations because the Company's firm transportation MDQ is equal to the lowest demand ratchet. This means that the Company could theoretically withdraw more gas from storage before the ratchet level has been reached. The Company generally only withdraws gas from its Tennessee storage for which it has firm transportation. There are no injection ratchets for the Tennessee storage contract. The Tennessee tariff requires a customer maintain an inventory level of at least 15 percent of capacity from November 1 through March 1.

The National Fuel FSS storage contract allows the full MDQ to be used until the inventory level falls to 30 percent of capacity. Between 15 percent and 30 percent, the effective MDQ falls to 91.67 percent of the full MDQ. Between 10 and 15 percent, the effective MDQ falls to 81.46 percent of the full MDQ. Below 10 percent of capacity, the MDQ falls to 73.32 percent of the full MDQ. National Fuel does not allow withdrawals in the summer.

The Steuben Storage contract allows the full MDQ to be used until the inventory level falls to 25 percent of capacity. Between 15 and 25 percent of capacity, the effective MDQ falls to 80 percent of the full MDQ. Between 5 percent and 15 percent of capacity, the effective MDQ falls to 60 percent of the full MDQ. Below 5 percent, the effective MDQ falls to 45 percent. The full injection quantity is available up to 50 percent of capacity; the maximum injection quantity is reduced to 75 percent of the full quantity when inventory is greater than 50 percent of full capacity. The Steuben contract does not allow withdrawals in the summer.

Information Request: DTE-1-12

September 23, 2005

Person Responsible: Max A. Gowen

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## Information Request DTE-1-12

Please answer the following:

- (a) Explain whether the Company used any risk management tools, financial or physical, in the past five years to mitigate gas price volatility. If the answer is in the affirmative, how successful were they?
- (b) If the answer to (a) is negative, explain why, highlighting any problems and/or difficulties in the use of risk management tools.
- (c) Does the Company plan to use any risk management tools in the next five years to reduce gas price volatility? If the answer is in the affirmative, explain the Company's choice of risk management tools. If the answer is negative, explain why.

## Response

- a) The Company has not used any financial risk management tools in the past five years to mitigate price volatility. The Company has used underground and LNG storage as a physical risk management tool, as well as a basic portfolio management tool. Underground storage is a natural physical hedge, as flowing summer gas is injected during the summer season and withdrawn during the winter season. In general, summer gas tends to be less expensive and less volatile than winter gas.
- b) On February 28, 2005, the Department approved a purchasing plan for NSTAR Gas to put in place a mechanism for managing price volatility. The Company is working to implement this plan beginning in November 2005 for the 2006-07 heating season.
- c) The Company will implement the program that the Department has recently approved for NSTAR.

Information Request: DTE-1-13

September 23, 2005

Person Responsible: Robert Koster

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## **Information Request DTE-1-13**

Please discuss the cost implications of and variance between forecasted sendout and actual sendout in the Company's last forecast and supply plan.

## Response

Table FA of Attachment 1 (Energy Facilities Sitting Board Standard Tables) quantifies the difference between actual normalized firm sendout and the forecast provided in the prior forecast and supply plan, D.T.E. 02-12. As shown in Table FA, the Company overforecast in the early portion of the plan and under-forecast in the later years of the forecast. Neither variance had any cost implications for customers because (1) the Company maximizes the value of any release opportunities when capacity is available; and (2) no incremental resources were added to meet system requirements in those years when the Company's forecast was below actual requirements. The Company's resource portfolio is engineered to allow for a level of flexibility to meet customer requirements slightly above and below the forecasted levels without the cost implications associated with adding or subtracting long-term capacity resources.

Information Request: DTE-1-14

September 23, 2005

Person Responsible: Max A. Gowen

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## Information Request DTE-1-14

Please explain whether NSTAR had any problems with regard to the timely delivery of marketer pipeline gas in the past five years. In your response, list the marketers involved, the frequency of non-delivery of gas, the total volumes involved in each occurrence, the effect on service reliability, and how the Company handled each situation.

## Response

In the past five years, the Company has not experienced an instance where a marketer has simply not delivered any gas to meet its customers' requirements. Company has experienced varying levels of under and over-deliveries from marketers on a consistent basis. Under the Company's Terms and Conditions for Distribution Service, there is a comprehensive framework established to deal with under and over-deliveries, which includes a penalty provision that escalates with the severity of the delivery shortfall (or overage). The stiffest penalties apply when the interstate pipelines serving the Company's service territory have imposed an Operational Flow Order ("OFO") and the Company has called a "Critical Day" under the Terms and Conditions. In that regard, the Company has experienced instances where marketers have under-delivered (sometimes substantially) on a Critical Day. In these instances, the Company has been able to maintain the overall balance of the system and has not incurred penalties at the pipeline level. The Company has relied on the Terms and Conditions to impose the designated penalties on the marketers responsible for the inadequate delivery. It should be noted that, under the Terms and Conditions, marketers are allowed to trade imbalances with other marketers at the end of each month, and therefore, an individual marketer may not actually pay a penalty equal to the original amount assessed by the Company.

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Information Request: DTE-1-15

September 23, 2005

Person Responsible: Max Gowen

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## **Information Request DTE-1-15**

Please discuss any promotional activities or programs that the Company undertook in the past five years to increase growth on its system. Discuss how successful these activities or programs were. Also discuss any promotional activities or programs that the Company plans to undertake in the next five years to increase growth on its system.

#### Response

All offers pertain to residential consumers converting to gas heat:

Year	Offer	Results
2005	\$500 off purchase of heating equipment	311 YTD Aug-05 Final Results TBD
2004	Free conversion burner rental for 12 months Free oil tank removal and free chimney cleaning	321
2003	Free boiler or furnace Installation not included	569
2002	Spring \$500 rebate Fall Free boiler or furnace – installation not included	391 Total 642 251
2001	Free oil tank removal and free chimney cleaning	118

#### **Future**

We plan to continue the current offer (\$500 off purchase of heating equipment) indefinitely.

The promotional programs have been effective, although due to extremely high saturation levels (86% range), our conversion opportunities are limited.

D.T.E. 05-46

Information Request: DTE-1-16

September 23, 2005

Person Responsible: Max A. Gowen

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## Information Request DTE-1-16

What price does city-gate natural gas have to reach in order to make liquified natural gas a profitable alternative resource for base-load supplies?

## Response

Because LNG must be either trucked in or liquefied into a limited storage facility, it cannot be readily used as an alternative to base-load supplies. Therefore, there is no price that would allow the Company to baseload its LNG supplies during the winter season because LNG is needed when the Company's loads are greater than what can be supplied by flowing pipeline supplies and withdrawals from underground storage. If LNG were used to displace high cost flowing supplies or storage withdrawals, there would not be adequate supplies available to meet customers' demand on cold days later in the winter season. LNG has to be saved for the days when firm requirements exceed the Company's flowing supplies and firm storage withdrawal quantities.

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Information Request: DTE-1-17

September 23, 2005

Person Responsible: Max A. Gowen

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## **Information Request DTE-1-17**

Please discuss any major problems that the Company has had in serving customers in the past five years during peak and off-peak periods and how the Company resolved those problems.

## Response

The Company has not had any major supply problems in meeting its customers' demands during peak and off-peak periods over the last five years. Although not resulting in any type of supply problem, the Company has faced increasing constraints on the Algonquin G-Lateral system. Therefore, the Company is working to resolve these constraints by adding resources or obtaining the operational flexibility necessary to alleviate these constraints. See, e.g., NSTAR Gas Company, D.T.E. 05-47, at 6 (2005) (approval of permanent release of capacity to NSTAR Gas on the Algonquin G Lateral).

D.T.E. 05-46

Information Request: DTE-1-18

September 23, 2005

Person Responsible: Max A. Gowen

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## **Information Request DTE-1-18**

Please answer the following:

- (a) Provide the dates during the past five years when NSTAR interrupted gas service to any of its firm supply customers.
- (b) Identify the customers groups that were interrupted, length of service interruption, and provide a rationale for interruption.
- (c) Identify any interruptible customers and quasi-firm transportation customers that continued to receive gas supplies during these interruptible periods. Also, list the volume of gas taken by each of these customer types during this period on a monthly basis.

## Response

- a) The Company has not "interrupted" gas service to any of its firm gas customers in the past five years. Please note that, under the Company's terms and conditions of distribution service, a planned interruption of a firm customer's gas supply is referred to as a curtailment.
- b) Please see the response to (a) above.
- c) Please see the response to (a) above. The Company cannot foresee a circumstance where firm customers would be curtailed due to supply shortages and interruptible customers would continue to be served by the Company.

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September 23, 2005

Person Responsible: Max A. Gowen

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## Information Request DTE-1-19

Please indicate whether the Company made any spot gas purchases in the past five years. With regard to the Company's purchase of spot gas, discuss:

- (a) the volume of spot purchases the Company has made over the past five years;
- (b) how the Company determines what quantity of to gas purchase on the spot market and how it selects vendors;
- (c) the source of these purchases;
- (d) the percentage of total gas purchases the Company made that were spot purchases over the past five years, and explain what factors determined these percentages;
- (e) the point of purchase of spot gas (i.e., the wellhead or the city-gate);
- (f) the advantages and disadvantages of purchasing spot gas at both the wellhead and the city-gate;
- (g) the Company's inherent ability to maintain low cost gas at the targeted standards of reliability;
- (h) the effects of a significant rise in spot prices (ten percent increase, 25 percent increase, 50 percent increase) on the Company's cost of gas adjustment clause;
- (i) commodity contracts, and provide a chart reflecting the commodity price paid by NSTAR for each commodity contract in the past one, two, three, four, and five years; and
- (j) whether the purchases occurred during the heating or non-heating season.

#### Response

a) See below.

# NSTAR Gas SPOT PURCHASES 2000-01 through 2004-05

(MMBtus)

 Total
 2000-01
 2001-02
 2002-03
 2003-04
 2004-05

 3,527,315
 3,732,293
 2,013,000

The Company operated under a contract with a portfolio manager for the 2000-01, 2001-02, 2003-04, and 2004-05 contract years and managed its own portfolio during the 2002-03 contract year.

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b) While operating under a portfolio manager, the only spot purchases for the summer are for quantities NSTAR liquefies at the Hopkinton LNG plant, as the liquefaction volumes are excluded from the portfolio management contract. The summer liquefaction quantities are determined by the amount of LNG vaporized during the winter.

While managing its own portfolio, the Company would purchase spot supplies whenever it needed additional gas beyond what was purchased or scheduled for the gas day in question. In general, monthly baseload supplies would be purchased on a short-term basis, but would not be considered as spot supplies. Spot supplies would be purchased for daily swing requirements. Under a portfolio manager, these daily swing quantities would be purchased form the portfolio manager.

During the winter, spot purchases are made when the Company is concerned with the LNG inventory. It will purchase citygate deliveries on days when LNG would be vaporized in order to displace LNG vaporization. It will continue to use citygate purchases to displace LNG until the Company is satisfied that there is sufficient LNG inventory to cover the projected LNG requirements for the latter part of the winter season.

Spot purchases are made from suppliers with whom the Company has executed NAESB or GISB contracts. The purchases are made on a competitive bid basis daily from Bidders on the list.

- c) The Company generally purchases spot gas at its citygate stations. It is the vendors' responsibility to deliver the gas to the gate station. The Company does not know where they obtain their supplies. When the Company purchases gas at the pipeline receipt points, it is the supplier's obligation to deliver the gas to the purchase point. Once again, the Company does not know how the supplier obtains its gas.
- d) The percentage of spot supplies purchased over the past 5 years is 7.2 percent. The factors that influence spot purchases include: 1) the amount of gas required in the summer for liquefaction at the Hopkinton facility; 2) how cold the winter is; and 3) whether or not the Company has signed a portfolio management contract with a supplier.
- e) Under a portfolio management contract, the Company purchases its spot supplies at the citygate stations. This is because the Company assigns all of its capacity to the

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portfolio manager. When the Company manages its own portfolio, it purchases spot gas at the pipeline receipt points.

- f) In general, the cost of delivered gas is lower if it is purchased at the pipeline receipt point and delivered to the gate stations with the Company's pipeline capacity. This is not always the case, however. The advantage of citygate purchases is that it does not utilize the Company's pipeline capacity.
- g) The purchase of spot gas has no impact on the reliability of the Company's portfolio. The Company's purchases of firm gas as well as spot gas purchases are based on market sensitive prices.
- h) Because the Company's use of spot gas is highly variable, it is difficult to predict the impact of higher spot gas prices on the Company's CGA. As noted above, most of the Company's purchases of gas, firm and spot, are market sensitive.
  - The Company has calculated based on its most recent CGA filing. a 10 percent increase in the 12 month NYMEX strip would increase the Company's CGA by about 7 percent. Similarly, a 25 percent increase in the 12 month NYMEX strip would increase the Company's CGA by about 17 percent. A 50 percent increase in the 12 month NYMEX strip would increase the Company's CGA by about 34 percent.
- i) The commodity contracts that NSTAR has had over the past 5 years have generally had prices tied to production area price indices and have included the pipeline variable costs to transport the gas to the citygate stations.
- i) See below.

#### NSTAR Gas SPOT PURCHASES 2000-01 through 2004-05

<u>By Season (MMBtus)</u> 2000-01 2001-02 2002-03 2003-04 2004-05									
Total	1,016,000	1,252,705	3,527,315	3,732,293	2,013,000				
Winter Summer	298,000 718,000	0 1,252,705	741,504 2,785,811	714,200 3,018,093	0 2,013,000				

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September 23, 2005

Person Responsible: Max A. Gowen

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## Information Request DTE-1-20

Please discuss, in relation to the design of the Company's supply portfolio:

- (a) the advantages and disadvantages of short-term contracts versus long-term contracts for gas supplies, transportation, and storage to the Company and its customers;
- (b) the advantages and disadvantages of short-term contracts versus spot market purchases of gas supplies to the Company and its customers;
- (c) the advantages and disadvantages of long-term contracts versus spot market purchases of gas supplies to the Company and its customers;
- (d) the tools and mechanisms that the Company employs to monitor and assess the market for supplies, transportation, and storage; and
- (e) the effectiveness of the tools and mechanisms that the Company uses to monitor the market in the past five years.

## Response

The design of the supply portfolio is more focused on the mix between flowing supplies, storage, and peaking supplies than it is on the different types of flowing supplies. Often, one does not have much control over length of contracts for capacity and storage. New transportation capacity projects generally require a minimum term commitment (often ten years) and when taking over existing contracts, the term is set by the existing term of the contract. There is generally more flexibility in negotiating the term of commodity supply contracts.

- a) Long-term contracts (contracts greater than one year in length) have a greater regulatory burden in that they require Department approval and short-term contracts do not. Long-term contracts provide greater certainty, which can be good in a stable environment and bad in an unstable environment. Short-term contracts provide more flexibility to respond to changing markets and regulatory policies.
- b) This depends on how the contracts are structured. In general, short- term contracts provide the opportunity to purchase some baseload quantities at first-of-the-month prices and some quantities at daily prices. Most spot contracts are priced on a daily basis, either a negotiated fixed price or a price tied to an index. Sometimes, first of the month prices are better than daily prices and other times it

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is the opposite. One cannot accurately predict which approach will generate the lowest cost.

- c) At some locations, it is clearly appropriate to prefer long-term contracts to spot contracts. This would include illiquid markets subject to high demand and limited supplies. Spot markets would very likely be based on daily indices for the particular location, while a long-term contract could be worked out with a more stable index such as a monthly index or a monthly NYMEX basis.
- d) The Company monitors industry trade publications and attends important industry meetings. In some case, it participates in customer groups that employ consultants to provide special market assessments of particularly relevant markets. In recent years, the Company has relied upon the expertise of portfolio managers because of their ability and experience in accessing gas supplies from producing and market areas to meet the Company's city gate requirements. In addition, the Company works closely with the asset managers on a day-to-day basis to share information and update the conditions of the market.
- e) The Company believes its use of these tools and mechanisms has been effective over the past 5 years.

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September 23, 2005

Person Responsible: Max Gowen

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## Information Request DTE-1-21

Regarding the Company's forecast and supply planning process:

- (a) Please provide figures showing the number of heating oil customers, and the total gas volumes involved, that the Company successfully converted to gas heating within the past five years.
- (b) Also provide figures showing the number of heating oil customers, and the total gas volumes involved, that converted to gas heating by themselves within the past five years.
- (c) Finally, provide figures showing the number of heating oil customers, and the total gas volumes involved, that the Company plans to convert to gas heating within the next five years.

## Response

(a)

Year	# of Residential Customers	MCF	Commercial/NA
2005 YTD	311	38,875	
2004	321	40,125	
2003	569	71,125	
2002	642	80,250	
2001	118	14,750	

(b)

Year	# of Residential Customers	MCF	Commercial/NA
2005 YTD	55	6,875	
2004	99	12,375	
2003	70	8,750	
2002	60	7,500	
2001	38	4,750	

(c)

Future expectations are for 500 annual residential conversions with 62,500 MCF, year 2006 through 2011.

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September 23, 2005

Person Responsible: Robert Koster

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## Information Request DTE-1-22

Please quantify what natural gas volumes are assumed to be shifted to third-party marketers by customer class of trade for each of the forecast years.

## Response

In the Municipal, Commercial and Industrial classes, Global Insight estimated equations with a multi-step process. In each division for the municipal, commercial and industrial classes, equations were estimated for the sum of firm sales and firm transportation, and the share of firm sales. Firm sales were then calculated as the product of the firm sales share and the sum of firm sales and firm transportation. Firm transportation was calculated as the residual. The firm sales share equations were estimated as a function of the firm sales share in a prior period and a time trend. While Global Insight did not make an explicit assumption regarding migration, the results of estimation of the firm sales share equations represent the Company's best estimate of the shift between sales and transportation.

The table below lists the firm sales shares by division and class for both history (1999-2004) and the forecast (2005-2010). The municipal class exhibits a shift to transportation, in the commercial class the sales share is expected to remain very stable, and the industrial class shows a slight movement towards transportation.

Firm Sales as a percentage of the Total Firm sales and Firm Transportation\*

			Cambi	ridge	Fr	amingh	ngham New Bedford		ingham New Bedford Worcester		d Worcester		
Year	Muni	Com	Ind	Muni	Com	Ind	Muni	Com	Ind	Muni	Com	Ind	
1999	40%	73%	39%	92%	75%	32%	78%	75%	32%	55%	68%	17%	
2000	39%	70%	38%	80%	76%	30%	74%	75%	30%	46%	64%	16%	
2001	41%	67%	34%	67%	74%	27%	66%	72%	28%	43%	61%	14%	
2002	45%	65%	31%	60%	66%	23%	59%	66%	27%	37%	61%	14%	
2003	57%	67%	49%	64%	65%	32%	67%	66%	32%	40%	60%	20%	
2004	55%	65%	45%	55%	68%	30%	57%	68%	28%	38%	60%	15%	
2005	49%	66%	45%	50%	69%	29%	52%	70%	27%	35%	61%	15%	
2006	47%	65%	45%	46%	69%	28%	49%	70%	26%	32%	61%	14%	
2007	45%	66%	44%	42%	69%	27%	46%	70%	26%	30%	61%	14%	
2008	45%	66%	44%	38%	69%	27%	44%	70%	25%	27%	61%	14%	
2009	44%	66%	43%	34%	69%	26%	42%	70%	24%	25%	61%	13%	
2010	44%	66%	43%	31%	69%	25%	41%	70%	23%	23%	61%	12%	

\*total Firm Sales and Firm Transportation exclude new Projects in the Forecast Period (2005-2010)

The small volume of transportation in the residential class was not modeled explicitly, however that volume was increased slightly over the forecast period.

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September 23, 2005

Person Responsible: Max A. Gowen

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## Information Request DTE-1-23

Please identify and comment on all major factors which could develop during the forecast period that could materially affect natural gas availability, reliability or costs to the endusers.

## Response

Probably the most important factor will be the ability for parties to construct LNG import terminals and to arrange for long-term commitments to supply them. This includes facilities proposed in the US Gulf Coast area and facilities in either Eastern Canada or in the Northeastern US. US domestic production will have difficulty in keeping up with the demand for natural gas. Gulf Coast LNG terminals will play an important role in keeping existing pipelines in the area supplied with gas. Eastern Canadian or Northeastern US terminals would play an important role in reducing the basis differentials for northeastern US markets.

Gas industry technological improvements will play an important role in maintaining US domestic and Canadian productivity, in terms of increasing recovery of gas from existing fields and in developing new fields in more remote locations.

The development of supplies in northern Alaska and the northwestern Canada will likely play a major role in replacing declining production in Alberta and British Colombia and will serve the markets in the western US, Mid-western US, and possibly the east coast.

The use of natural gas by the power generating sector has grown rapidly with the proliferation of combined cycle technology. The result has been an increase in price and volatility. In January of 2004, prices spiked as a result of a cold snap and increased usage by power plants. In addition, many of these plants have no long term capacity or alternative fuels which further increases volatility. Summer prices for gas, which has been the traditional storage filling season are now driven higher by power generation during hot weather resulting in more expensive gas in storage. The disruption of gas infrastructure in the Gulf on Mexico due to hurricanes combined with the increased usage by power plants could further increase volatility unless these facilities are returned to service prior to the winter heating season.

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Person Responsible: Max A.Gowen

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## Information Request DTE-1-24

Please identify the steps in the Company's resource acquisition process. Detail the process involved when the Company solicits the marketplace for incremental and replacement resources.

## Response

The first step is the continuous evaluation of the projected needs of the customers' firm requirements in comparison with the Company's portfolio. If there is a balance, then there is no need for change.

If there is an imbalance, the modeling analysis will indicate what type of resource is most applicable and where it is needed (either on the Company's Algonquin served system or on its Tennessee served system). In general, recent portfolio shortfalls have indicated shortages in winter season resources.

Small shortfalls might not require incremental firm supplies, but as the shortfalls are projected to become larger, steps must be taken to arrange for appropriate contracts. In the short-term, city-gate supplies are viable alternatives for relatively small quantities, but eventually, greater steps may need to be taken because the Company does not want to become overly dependent upon city gate deliveries.

The Company monitors potential pipeline expansion projects as well as other relevant market activity. Recently, a number of gas-fired electric generating facilities have restructured their contracts with electric distribution companies, resulting in their determination that they no longer need to maintain firm pipeline transportation capacity.

The Company discusses potential opportunities with a number of market participants to get a better sense of what options may be available. The Company eventually issues an RFP describing its requirements and requests bidders to propose creative ways of solving the Company's requirement. It evaluates the response to the RFP and generally has short list parties clarify bids based on updated assessments of requirements and address specific questions that will assist the Company in picking a winning bidder.

The Company then selects a winning bidder based on a thorough review of price and non-price factors and presents its recommendations to a Senior Management Team. If the recommendation is approved, the Company completes the negotiation of a contract. If the contract is a long-term contract, it prepares a filing for the Department.

Contract replacements tend to be more straightforward. Long before the contract terminates, the Company reviews its continued need for the contract and the available alternatives to the contract.

Information Request: DTE-1-24

September 23, 2005

Person Responsible: Max A.Gowen

Page 2 of 2

Some contracts are very easy to evaluate largely because there are not many realistic alternatives. For example, the renewal of the Tennessee pipeline longhaul contracts that provide firm transportation from the Gulf Coast supply areas attached to the Tennessee system to the Company's Tennessee citygate stations had no effective alternative. The contracts provide the least expensive capacity to the Company's stations and it would be prohibitively costly for others to construct new capacity to compete with the existing low-cost Tennessee capacity.

D.T.E. 05-46

Information Request: DTE-1-25

September 23, 2005

Person Responsible: Max Gowen

Page 1 of 1

## Information Request DTE-1-25

Please submit a copy of the Company's standard (or most recent) request for proposal ("RFP") for pipeline commodity. Please refer to the RFP and discuss (1) how it meets the Company's supply strategy, and (2) how it helps the Company meets its planning goals and objectives.

## Response

See Attachment DTE-1-25 for a copy of the Company's most recent RFP, which was issued on July 8, 2005 for the supply to utilize the Dartmouth Power pipeline capacity. Please note that, from the Company's perspective, the RFP document itself is not a component of the Company's supply strategy, but rather is a means to achieving the Company's supply strategy. However, depending on the circumstances of the Company's supply or capacity need, an RFP process can help to meet the Company's planning goals and objectives because it allows the Company to solicit competitively priced bids for incremental resource requirements.

This attached RFP requested a supply to meet the Company's winter season requirements for the upcoming 2005-06 winter season and encouraged suppliers to offer a long term supply option that would be contingent upon the Department approving the NSTAR application for a permanent assignment of the Dartmouth contract. The receipt point for the supply is the Mendon, MA interconnection with Tennessee Gas Pipeline, the firm receipt point for the Dartmouth Power contract.

The RFP encouraged bidders to offer a variety of alternatives involving pricing, and take flexibility.

## **NSTAR GAS COMPANY**

# REQUEST FOR PROPOSALS (RFP) FOR THE PURCHASE OF FIRM NATURAL GAS WINTER SUPPLIES

NSTAR GAS COMPANY (NSTAR Gas, or the Company), is a local gas distribution company (LDC) which provides service to approximately 300,000 natural gas customers in four geographic areas in Massachusetts: Worcester, Framingham, Cambridge and New Bedford. NSTAR Gas (formerly Commonwealth Gas) is the gas distribution subsidiary of NSTAR, which was created in the 1999 merger of Boston Edison and Commonwealth Energy System. Additional information (including financial statements) about NSTAR may be obtained through the website <a href="https://www.nstaronline.com">www.nstaronline.com</a>.

NSTAR Gas' total system throughput in 2004 was approximately 59 Bcf, of which approximately 40 Bcf, or 68%, was supplied by NSTAR Gas (primarily residential, small commercial and small industrial sales customers). NSTAR Gas is subject to regulation by the Massachusetts Department of Telecommunications and Energy (DTE). As detailed below, the Company has a DTE approved mandatory capacity assignment program to facilitate retail choice for its customers. Respondents are cautioned to carefully read this RFP and ask whatever questions are necessary to complete their understanding of any and all risks prior to submitting responses.

## A. OBJECTIVE OF RFP

The primary objective of this RFP is to obtain certain reliable, cost effective <u>firm winter gas</u> <u>supplies</u> for the winter of November 2005 through March 2006, and possibly through the winter of 2009-2010.

NSTAR Gas has obtained a one-year release of capacity from Dartmouth Power Associates Limited Partership under its Algonquin Rate Schedule AFT-2 contract (the "Dartmouth Released Capacity"). The Dartmouth Released Capacity provides firm transportation from the Tennessee / Algonquin interconnection at Mendon, MA to New Bedford, MA for 14,010 dth/day. NSTAR Gas has filed an application with the Massachusetts Department of Telecommunications and Energy (DTE) for a permanent assignment of this capacity. Upon DTE approval, the Dartmouth Released Capacity will become NSTAR's capacity pursuant to a replacement transportation contract with Algonquin.

NSTAR Gas is interested in signing a contract for deliveries for the upcoming winter season of November 1, 2005 through March 31,2006 utilizing the Dartmouth Released Capacity. The primary receipt point for that capacity is Mendon, MA. Algonquin's Beverly, MA receipt point could be used on a secondary basis. NSTAR is willing to consider alternatives for a multi-year agreement utilizing the Dartmouth Released Capacity, subject to the DTE's approval of NSTAR's request for permanent assignment of that capacity. Any multi-year agreement with a supplier in response to this RFP would also require DTE approval.

The selected party is expected to execute a term sheet confirming the agreed terms (including pricing) with NSTAR Gas promptly following selection. The selected party must also execute a definitive contract by September 30, 2005, for service commencing November 1, 2005. The executed contract may be filed with the Massachusetts DTE for informational purposes' provided, as noted above, to the extent that contract is for a term of greater than one year, that contract is subject to DTE approval.

## B. SYSTEM DESCRIPTION

Gas is delivered to the NSTAR Gas distribution system through two pipelines: Algonquin Gas Transmission Company (AGT) and Tennessee Gas Pipeline Company (TGP). Gas is delivered to NSTAR Gas on AGT via Texas Eastern Transmission Company (TETCO), National Fuel Gas Supply (NFGS), Transcontinental Pipeline (Transco) and Dominion Transmission (DTI). Gas is delivered on TGP directly and via Iroquois Pipeline.

In addition to its firm pipeline transportation entitlements of 140,556 Dth/day from Gulf producing regions and 4,500 dth/day from Canada, the Company currently has under contract 7.93 Bcf of storage accessible to the TETCO/AGT and TGP Systems and 76,849 Dth/day of associated short-haul transportation. The Company also has approximately 3.5 Bcf of LNG storage capacity and 210,000 Dth/day of LNG vaporization capacity to satisfy its winter swing and peaking supply needs.

## C. SUPPLY REQUIREMENTS

All of the following gas supply requirements are firm (unless otherwise noted) and substantial penalties will apply for any failure to deliver that is not excused by contract or by force majeure.

This RFP is soliciting proposals for firm winter season gas supplies for the winter of November 2005-March 2006, and will also consider proposals for firm winter gas service supplies through the winter of 2009-2010. The quantity of gas that is the subject of this RFP is described below.

As noted above, NSTAR Gas has negotiated a one-year capacity release from Dartmouth Power with a MDQ of 14,010 dth/day in place for the winter of 2005-2006, and has filed an application with the Massachusetts DTE for a permanent assignment of that capacity. Any purchase of quantities beyond March 31, 2006 would be contingent upon the DTE's approval of the NSTAR Gas application for permanent assignment of the Dartmouth Released Capacity and upon the DTE's approval of the contract to purchase gas supplies for a period of greater than one year.

For the 2005-06 winter season, NSTAR Gas requests between 1.4 BBTU and 1.8 BBTU of gas. If a Bidder has the ability to offer a service with flexible take requirements, the maximum amount of gas that can be taken by NSTAR Gas at Mendon is 14,010 dth/day, plus Algonquin fuel. If a party is offering a 151-day winter service, the maximum daily quantity should be 12,000 Dth/day, plus Algonquin fuel.

For the winter of 2005-2006, if a party offers a baseload winter service, NSTAR Gas is willing to consider a 10-day to 20-day recall of 6,000 dth/day at the suppliers's request, converting 6,000 dth/day of the 12,000 dth/day 151-day service to a 141-day service.

For the 2006-07 winter season and beyond, NSTAR Gas anticipates that it could require as much as 2.1 BBTU or 14,010 dth/day for 151 days. NSTAR Gas encourages suppliers to offer winter supplies utilizing the Dartmouth Released Capacity for a 5-year period through the winter of 2009-2010. In years 2006-2007 through 2009-2010, NSTAR Gas does not anticipate allowing the supplier to have recall rights.

RFPs for supplies for meeting the NSTAR Gas winter season requirements beyond the Dartmouth Released Capacity will be issued in the future.

## D. CONTRACT TERM

The minimum contract term NSTAR Gas is willing to consider is for the winter season of November 2005-March 2006. For parties offering multiple year terms, NSTAR Gas will consider up to five-year terms.

## E. PRICING

NSTAR Gas is willing to consider alternative pricing proposals. Parties proposing to provide baseload winter supplies are encouraged to provide a NYMEX-based basis differential, although other bases may be considered. Parties proposing to provide a baseload supply with limited recall rights are required to identify the price adjustment associated with the limited recall right. Each recall option should be priced separately.

Parties proposing to provide a flexible service based on storage contracts and related firm transportation contracts are required to specify all appropriate pricing provisions. For example, the Bidder would be expected to provide a formula for calculating commodity costs and identify whatever pipeline and storage company rate schedules that would be used to calculate all fixed and variable costs.

## F. FLEXIBILITY

Bidders are required to identify the take provision associated with their proposals. As noted above, NSTAR Gas is willing to consider baseload winter service options, baseload winter service with limited recall rights, and flexible takes, consistent with storage contract provisions.

## G. REQUIREMENTS

Each proposal is required to address all of the following:

- 1. Quantity: The proposal must specify the MDQ and the winter season quantities available under the proposal. See Section C., "Supply Requirements."
- 2. Point of Delivery: The proposal must state the proposed delivery point. As noted above, the primary receipt point on the AFT-2 contract is Mendon, MA. However, NSTAR Gas will consider Beverly, MA as a secondary receipt point. Bidders must identify how they plan to deliver the supply to the delivery point and provide the primary receipt and delivery points of the upstream contract.
- 3. Contract Term See Section F., "Contract Term."
- 4. Pricing See Section G., "Pricing."
- Flexibility See Section H., "Flexibility."
- 6. <u>Financial Reports:</u> Each supplier must provide a copy of the company's most recent audited financial statements and annual report. Where another company has any financial interest in the proposed supplier, the most recent audited financial statements and annual report of the company with such financial interest also must be provided.
- 7. Supply and Transportation Documentation and Warranties: Each supplier

should provide detailed documentation of the amount of gas supplies that it owns or controls, which are accessible to the applicable delivery points. Each supplier should also provide specific information regarding the status and nature of any upstream transportation that may be used to transport the proposed supplies to designated delivery points. Finally, potential suppliers will be required to indicate their willingness to provide warranties, parent guarantees and letters of credit in support of a contractual commitment.

## H. PROCEDURES

Questions regarding this RFP should be directed to:

Max Gowen NSTAR Gas Company One NSTAR Way, NE 220 Westwood, MA 02090-9230

Telephone: 781-441-3556 Telecopier: 781-441-8167

Email: max\_gowen@nstaronline.com

NSTAR Gas strongly prefers to receive questions regarding this RFP via email. NSTAR Gas also reserves the right to answer such questions in writing and to distribute its responses to such questions to all parties that have received a copy of this RFP.

Responses to this RFP must be made in writing and may be made by mail, enclosed in a sealed envelope, by email or by telecopy. All proposals must be received by **July 27, 2005** at 4:00 p.m. Eastern Time. Any supplier that submits a telecopy or email response to this RFP must also send its response by mail, enclosed in a sealed envelope and postmarked no later than **July 27, 2005**. NSTAR Gas may not accept by mail any proposal from a supplier sent as a follow up to its telefax or email proposal that differs from its telefax or email proposal.

All proposals should be sent to:

Max Gowen NSTAR Gas Company One NSTAR Way, NE 220 Westwood, MA 02090-9230

Telecopier: 781-441-8167

Email: max\_gowen@nstaronline.com

NSTAR Gas reserves the right to reject any proposal that is not timely and properly submitted, or is not complete in all respects, or that contains inaccurate or misleading information. The bidder shall be obligated (following the submission of a proposal) to provide further information as the Company may request, and to update any information (including, without limitation, information regarding the bidder's gas, gas transportation and financial resources) such that all information set forth in a bid remains accurate throughout the course of negotiations.

#### PROPOSED SCHEDULE 1.

The following is a proposed schedule (subject to change) for NSTAR Gas' current RFP process:

> July 8, 2005 Issuance of RFP **Proposals Due Review of Proposals** First Cut of Suppliers Notified Individual Conferences with First **Cut Suppliers** Selection of Final Supplier(s) Letter of Intent/Term Sheet Executed **Contract Negotiations** Contract(s) Finalized or Interim Agreements in Place

July 27, 2005 July 28 – August 5, 2005 August 8, 2005 August 10 - August 17, 2005

August 10, 2005 August 26, 2005 September 2005

September 30, 2005

#### CONFIDENTIALITY J.

Potential suppliers may request that specific information contained in or relative to its proposal be treated by NSTAR Gas on a confidential basis. Such request shall be clearly stated on every page of the proposal on which confidential information may appear. NSTAR Gas and its representatives shall take reasonable efforts steps to protect information that is clearly identified as confidential from disclosure to third parties. Potential suppliers shall use their own reasonable efforts to protect information that NSTAR Gas designates as confidential, as well as the communications and documents received from NSTAR Gas during the course of any negotiations.

Potential suppliers should understand that NSTAR Gas may deem it necessary to disclose certain information relating to this RFP and the proposals it receives to the Mass DTE.

Upon written request by a potential supplier, NSTAR Gas shall request of the Mass DTE that any information designated as confidential by the potential supplier be afforded protected status by the Mass DTE and thus be given confidential treatment by the Mass DTE in any public forum that may be called to evaluate the contracts.

However, NSTAR Gas cannot guarantee that such information will not be disclosed, and in no event shall NSTAR Gas be liable as a result of any disclosure of confidential information during the period of review and analysis of proposals or during subsequent contract negotiations and regulatory proceedings.

## K. EVALUATION OF PROPOSALS

NSTAR Gas uses several factors in its consideration of firm gas supply proposals. **Exhibit** 1 shows the factors and relative weights that NSTAR Gas will use in its evaluation of proposals. NSTAR Gas reserves the right to change the factors and their respective weights, and to add or delete factors, at any time. A brief description of the factors follows:

## Reliability

NSTAR Gas defines reliability as the ability to deliver the firm gas supply each day of the contract period. NSTAR Gas will assess the supplier's ability to meet this commitment as demonstrated by its supply arrangements and transportation contracts relied upon to deliver gas to the delivery point, customer references, warranty provisions and past performance.

## Competitiveness

NSTAR Gas operates increasingly in a competitive market, and, therefore, the maximum benefit of the trade-offs between pricing, flexibility, contract term length and reliability will be considered.

## <u>Diversity</u>

NSTAR Gas seeks an overall diversified portfolio. Diversity in the context of a small component of the overall portfolio is not as important as it is in larger contracts and therefore, the weighting is not as great for this contract as in others. Diversity for this contract suggests potentially contracting with a different party from the party chosen for overall portfolio management services, considering supplies from alternative supply areas, and considering pricing terms that differ from other major parts of the portfolio and tend to dampen portfolio price volatility.

Exhibit 1 WEIGHTED SUPPLIER EVALUATION CRITERIA					
CRITERION	PERCENT				
RELIABILITY	25%				
COMPETITIVENESS	35%				
DIVERSITY	10%				
RESPONSIVENESS (COMMERCIAL / CONTRACTUAL REQUIREMENTS)	15%				
FINANCIAL STRENGTH	15%				

## Responsiveness

NSTAR Gas will assess how well the proposal meets the requirements of this RFP, including completeness and clarity of the initial response as well as subsequent requests for information.

## Financial Strength

NSTAR Gas will review the historical and projected financial resources of the proposed supplier with respect to its ability to act as a potential firm natural gas supplier and its capability of meeting all future commitments. This will include an evaluation of audited financial statements and credit ratings. A supplier's willingness to provide parent guarantees (if performance by a subsidiary is contemplated), letters of credit and other performance assurances will be considered positive indicators of financial strength.

# L. FIRM COMMITMENT

NSTAR Gas shall not be considered to have made a commitment to purchase gas from any potential supplier either through the issuance of this RFP or by its negotiations with a potential supplier. NSTAR Gas reserves the right, in its sole discretion and at any time (including without limitation as the Company deems necessary to comply with the actions of regulatory bodies of competent jurisdiction), to withdraw and/or modify this RFP, to reject any and all proposals, and to discontinue negotiations with any and all potential suppliers. NSTAR Gas shall have no commitment to purchase gas unless and until the authorized representatives of the Company and the supplier have executed a definitive

agreement and any conditions precedent set forth in that agreement have been satisfied. NSTAR Gas further reserves the right to purchase natural gas supplies from other appropriate sources.

D.T.E. 05-46

Information Request: DTE-1-26

September 23, 2005

Person Responsible: Max A. Gowen

Page 1 of 1

## **Information Request DTE-1-26**

Please describe how the company ensures that it continually evaluates resource options that are available on the market. Describe the evaluation process.

## Response

The Company continually monitors market events through trade publications, contacts with its pipeline marketing representatives, meetings with potential project developers, discussions with members of customer groups, attending important industry meetings and conferences, and conversations with marketers active in the region. Projects are evaluated based on the available information with respect to how the project might meet NSTAR's requirements, whether the project is timely, the project development risk, the projected price, and other factors.

D.T.E. 05-46

Information Request: DTE-1-27

September 23, 2005

Person Responsible: Robert Koster

Page 1 of 1

## Information Request DTE-1-27

How does the Company foresee the effects of customer migration and reverse migration by class during the forecast period? Does this forecast correspond to past experience for each class?

## Response

As presented in the response to Information Request DTE 1-22, customer migration from firm sales to firm transportation is expected to increase slightly over the forecast period. The largest increases occurs in the municipal and industrial classes based on a projection that relies on historical trends. However, the bulk of the customers and volumes are in the residential and commercial classes and these customers exhibit little change over the forecast period. While we do observe that the smaller commercial customers do switch back and forth between sales and transportation, we see little evidence of any significant shift of volumes from transportation back to sales service.

The table presented in response to Information Request DTE 1-22 indicates that the forecast is consistent with the Company's historical experience for each class for each division.

Information Request: DTE-1-28

September 23, 2005

Person Responsible: Max A. Gowen

Page 1 of 1

## Information Request DTE-1-28

Referring to Attachment 1 of the Company's filing, please update the "Resources" portion of G-22 tables in the Company's filing to include the total maximum volumes available to the Company (Bbtus), including pipeline and local production, under the Company's existing contractual agreements.

## Response

See Attachment DTE-1-28 for the updated G-22 tables.

Company: NSTAR Gas Date: May 2005

Table G-22N, Page 1 MASS EFSC

## COMPARISON OF RESOURCES AND REQUIREMENTS

#### NORMAL YEAR (Bbtu)

#### **HEATING SEASON**

	Season	Winter 05-06	Winter 06-07	Winter 07-08	Winter 08-09	Winter 09-10
	REQUIREMENTS					
1	FIRM	27,412	27,775	28,125	28,437	28,711
2	MIT	792	792	798 1	792	792
3	Cap Elig	2,347	2,413	2,464	2,524	2,568
4	Sub Total	30,550	30,980	31,387	31,752	32,071
5	Injections					
6	LNG	0	0	0	0	0
7	Underground	0	0	0	0	0
8	Sub Total	0	0	0	0	0
9	Total	30,550	30,980	31,387	31,752	32,071
	RESOURCES					
10	Pipeline			7.440	7.400	:7.404
11	TGP	7,124	7,127	7,148	7,103	7,104
12	AGT/TETCO	11,156	11,536	11,921	12,353	12,696 669
13	ANE	669	669	673	669	
14	Sum Total	18,950	19,332	19,742	20,125	20,469
15	Storage Withdrawals					
16	LNG	2,820	2,820	2,820	2,820	2,820
17	AGT/TETCO	4,204	4,206	4,188	4,186	4,193
18	TGP	3,327	3,328	3,342	3,328	3,294
19	Sub Total	10,351	10,355	10,351	10,334	10,308
	Dartmouth AGT capacity/supply	1,249	1,293	1,294	1,294	1,294
20	Citygate Supplies	0	0	0	0	0
21	Total	30,550	30,980	31,387	31,752	32,071

<sup>1</sup> Leap Year

Company: NSTAR Gas Date: May 2005

Table G-22D, Page 1 MASS EFSC

#### COMPARISON OF RESOURCES AND REQUIREMENTS

## DESIGN YEAR (Bbtu)

## **HEATING SEASON**

	Season	Winter 05-06	Winter 06-07	Winter 07-08	Winter 08-09	Winter 09-10
	REQUIREMENTS					
1	FIRM	30,195	30,595	30,978	31,323	31,624
2	MIT	721	721	726	721	721
3	Cap Elig	2,503	2,574	2,627	2,691	2,738
4	Sub Total	33,418	33,889	34,331	34,735	35,083
5	Injections					
6	LNG	0	0	0	0	0
7	Underground	0	0	0	0	0
8	Sub Total	0	0	0	0	0
9	Total	33,418	33,889	34,331	34,735	35,083
	RESOURCES					
10	Pipeline					
11	TGP	7,128	7,130	7,155	7,111	7,113
12	AGT/TETCO	13,089	13,199	13,355	13,320	13,422
13	ANE	669	669	673	669	669
14	Sub Total	20,886	20,998	21,184	21,099	21,204
15	Storage Withdrawals					
16	LNG	3,301	3,301	3,301	3,301	3,301
17	AGT/TETCO	4,206	4,211	4,218	4,225	4,208
18	TGP	3,229	3,245	3,311	3,299	3,260
19	Sub Total	10,736	10,757	10,830	10,824	10,768
	Dartmouth AGT capacity/supply	1294	1294	1294	1294	1294
20	Citygate Supplies	502	840	1023	1517	1817
21	Total	33,418	33,889	34,331	34,735	35,083

Table G-22D, Page 1 MASS EFSC

# COMPARISON OF RESOURCES AND REQUIREMENTS

### DESIGN YEAR (Bbtu)

	Season	Winter 05-06	Winter 06-07	Winter 07-08	Winter 08-09	Winter 09-10
	REQUIREMENTS					
1	FIRM	30,195	30,595	30,978	31,323	31,624
2	MIT	721	721	726	721	721
3	Cap Elig	2,503	2,574	2,627	2,691	2,738
4	Sub Total	33,418	33,889	34,331	34,735	35,083
5	Injections					_
6	LNG	0	0	0	0	0
7	Underground	0	. 0	0	0	0
8	Sub Total	0	0	0	0	0
9	Total	33,418	33,889	34,331	34,735	35,083
	RESOURCES					
10	Pipeline	7,128	7,130	7,155	7,111	7,113
11	TGP AGT/TETCO	13,089	13,199	13,355	13,320	13,422
12	ANE	669	669	673	669	669
13 14	Sub Total	20,886	20,998	21,184	21,099	21,204
15	Storage Withdrawals					
16	LNG	3,301	3,301	3,301	3,301	3,301
17	AGT/TETCO	4,206	4,211	4,218	4,225	4,208
18	TGP	3,229	3,245	3,311	3,299	3,260
19	Sub Total	10,736	10,757	10,830	10,824	10,768
	Dartmouth AGT capacity/supply	1294	1294	1294	1294	1294
20	Citygate Supplies	502	840	1023	1517	1817
21	Total	33,418	33,889	34,331	34,735	35,083

Company: NSTAR Gas Date: May 2005

Table G-22D, Page 2 MASS EFSC

# COMPARISON OF RESOURCES AND REQUIREMENTS

# DESIGN YEAR (Bbtu)

### NON-HEATING SEASON

	Season	Summer 2006	Summer 2007	Summer 2008	Summer 2009	Summer 2010
	REQUIREMENTS					
1	FIRM	10,440	10,579	10,709	10,823	10,923
2	MIT	1,177	1,177	1,177	1,177	1,177
3	Cap Elig	1,827	1,873	1,909	1,948	1,991
4	Sub Total	13,445	13,630	13,795	13,947	14,092
5	Injections		4.440	4 440	4,410	4,410
6	LNG	4,410	4,410	4,410		8,058
7	Underground	7,973	8,015	8,114	8,113	
8	Sub Total	12,382	12,425	12,523	12,523	12,467
	Dartmouth AGT capacity/supply	1,437	1,437	1,437	1,437	1,437
9	Total	27,264	27,492	27,755	27,907	27,996
	RESOURCES .					
10	Pipeline					
11	TGP	10,520	10,521	10,522	10,522	10,522
12	AGT/TETCO	13,761	13,968	14,210	14,353	14,437
13	ANE	948	948	948	948	948
14	Sub Total	25,229	25,437	25,681	25,823	25,907
15	Storage Withdrawals					
16	LNG	480	480	480	481	480
17	AGT/TETCO	39	36	49	43	53
18	TGP	79	101	109	120	114
		598	618	638	643	647
19	Sub Total	330	3,5			
	Dartmouth AGT Capacity/Supply	1,437	1,437	1,437	1,437	1,437
20	Citygate Supplies	0	0	0	4	6
21	Total	27,264	27,492	27,755	27,907	27,996

COMPANY: NSTAR Gas

Date: May 2005

Tables G-22, Back-up MASS EFSC

#### TABLE G-22 BACK-UP DATA Bbtu

# A. Design Heating Season Ending Resources

		2005-2006	2006-2007	2007-2008	2008-2009	2009-2010
	STORAGE INVENTORIES					
1 2 3	AGT STORAGE TGP STORAGE LNG	36 172 349	31 156 349	23 88 349	16 101 349	34 141 349
	PIPELINE GAS					
4	TGP	28	26	47	45	43
5	AGT / TETCO	801	690	627	570	468
6	ANE	0	0	0	0	0
-	Dartmouth AGT	0	0	0	0	0
	OLIODEÉS SENTAL					

#### SUPPLEMENTAL

- 7 LNG Optional Volumes
- 8 Propane Optional Volumes
- B. THERMAL-VOLUMETRIC CONVERSION FACTORS
- 9 System Average
- 10 TGP
- 11 AGT
- 12 LNG
- 13 Propane gal/Btu
- 14 Propane Btu/cf
- C. PERCENT LOSSES ASSOCIATED WITH STORAGE

Storage Field	Loss Factor
Storage Field	<u> </u>

15

16

17

Information Request: DTE-1-29

September 23, 2005

Person Responsible: Max A. Gowen

Page 1 of 1

### Information Request DTE-1-29

Referring to Attachment 1 of the Company's filing, please update Table G-23 in the Company's filing to include the total maximum volumes available to the Company (Bbtus), including pipeline and local production, under the Company's existing contractual agreements.

### Response

See Attachment DTE-1-29 for the updated G-23 tables.

Company: NSTAR Gas Date: May 2005

Table G-22N, Page 1 MASS EFSC

#### COMPARISON OF RESOURCES AND REQUIREMENTS

### NORMAL YEAR (Bbtu)

	Season	Winter 05-06	Winter 06-07	Winter 07-08	Winter 08-09	Winter 09-10
	REQUIREMENTS					
1	FIRM	27,412	27,775	28,125	28,437	28,711
2	MIT	792	792	798 1	792	792
3	Cap Elig	2,347	2,413	2,464	2,524	2,568
4	Sub Total	30,550	30,980	31,387	31,752	32,071
5	Injections					
6	LNG	0	0	0	0	0
7	Underground	0	0	0	0	. 0
8	Sub Total	0	0	0	0	0
9	Total	30,550	30,980	31,387	31,752	32,071
	RESOURCES					·
10	Pipeline				7 400	7.404
11	TGP	7,124	7,127	7,148	7,103	7,104
12	AGT/TETCO	11,156	11,536	11,921	12,353	12,696
13	ANE	669	669	673	669	669
14	Sum Total	18,950	19,332	19,742	20,125	20,469
15	Storage Withdrawals					
16	LNG	2,820	2,820	2,820	2,820	2,820
17	AGT/TETCO	4,204	4,206	4,188	4,186	4,193
18	TGP	3,327	3,328	3,342	3,328	3,294
19	Sub Total	10,351	10,355	10,351	10,334	10,308
	Dartmouth AGT capacity/supply	1,249	1,293	1,294	1,294	1,294
20	Citygate Supplies	0	0	0	0	. 0
21	Total	30,550	30,980	31,387	31,752	32,071

<sup>1</sup> Leap Year

Table G-22D, Page 1 MASS EFSC

#### COMPARISON OF RESOURCES AND REQUIREMENTS

### DESIGN YEAR (Bbtu)

	Season	Winter 05-06	Winter 06-07	Winter 07-08	Winter 08-09	Winter 09-10
	REQUIREMENTS					
1	FIRM	30,195	30,595	30,978	31,323	31,624
2	MIT	721	721	726	721	721
3	Cap Elig	2,503	2,574	2,627	2,691	2,738
4	Sub Total	33,418	33,889	34,331	34,735	35,083
5	Injections					
6	LNG	0	0	0	0	0
7	Underground	0	0	0	0	0
8	Sub Total	0	0	0	0	0
9	Total	33,418	33,889	34,331	34,735	35,083
	RESOURCES					
10	Pipeline					
11	TGP	7,128	7,130	7,155	7,111	7,113
12	AGT/TETCO	13,089	13,199	13,355	13,320	13,422
13	ANE	669	669	673	669	669
14	Sub Total	20,886	20,998	21,184	21,099	21,204
15	Storage Withdrawals					
16	LNG	3,301	3,301	3,301	3,301	3,301
17	AGT/TETCO	4,206	4,211	4,218	4,225	4,208
18	TGP	3,229	3,245	3,311	3,299	3,260
19	Sub Total	10,736	10,757	10,830	10,824	10,768
	Dartmouth AGT capacity/supply	1294	1294	1294	1294	1294
20	Citygate Supplies	502	840	1023	1517	1817
21	Total	33,418	33,889	34,331	34,735	35,083

Company: NSTAR Gas Date: May 2005

Table G-22D, Page 1 MASS EFSC

# COMPARISON OF RESOURCES AND REQUIREMENTS

# DESIGN YEAR (Bbtu)

	Season	Winter 05-06	Winter 06-07	Winter 07-08	Winter 08-09	Winter 09-10
	REQUIREMENTS					
1	FIRM	30,195	30,595	30,978	31,323	31,624
2	MIT	721	721	726	721	721
3	Cap Elig	2,503	2,574	2,627	2,691	2,738
4	Sub Total	33,418	33,889	34,331	34,735	35,083
5	Injections					
6	LNG	0	0	0	0	0
7	Underground	0	0	0	0	0
8	Sub Total	0	0	0	0	0
9	Total	33,418	33,889	34,331	34,735	35,083
	RESOURCES					
10	Pipeline					
11	TGP	7,128	7,130	7,155	7,111	7,113
12	AGT/TETCO	13,089	13,199	13,355	13,320	13,422
13	ANE	669	669	673	669	669
14	Sub Total	20,886	20,998	21,184	21,099	21,204
15	Storage Withdrawals					
16	LNG	3,301	3,301	3,301	3,301	3,301
17	AGT/TETCO	4,206	4,211	4,218	4,225	4,208
18	TGP	3,229	3,245	3,311	3,299	3,260
19	Sub Total	10,736	10,757	10,830	10,824	10,768
	Dartmouth AGT capacity/supply	1294	1294	1294	1294	1294
20	Citygate Supplies	502	840	1023	1517	1817
21	Total	33,418	33,889	34,331	34,735	35,083

Table G-22D, Page 2 MASS EFSC

# COMPARISON OF RESOURCES AND REQUIREMENTS

### DESIGN YEAR (Bbtu)

### NON-HEATING SEASON

٠	Season	Summer 2006	Summer 2007	Summer 2008	Summer 2009	Summer 2010
	DECLUDENTALITO					
	REQUIREMENTS	10,440	10,579	10,709	10,823	10,923
1	FIRM	1,177	1,177	1,177	1,177	1,177
2	MIT	· ·	1,177	1,909	1,948	1,991
3	Cap Elig	1,827		13,795	13,947	14,092
4	Sub Total	13,445	13,630	13,793	10,547	14,002
_						
5	Injections	4.440	4,410	4,410	4,410	4,410
6	LNG	4,410	•	8,114	8,113	8,058
7	Underground	7,973	8,015	12,523	12,523	12,467
8	Sub Total	12,382	12,425	12,525	12,020	12,401
	Dartmouth AGT capacity/supply	1,437	1,437	1,437	1,437	1,437
	Darumous Act capacity cappiy	.,	,,	•		
9	Total	27,264	27,492	27,755	27,907	27,996
	RESOURCES					
10	Pipeline			40 500	40 500	10,522
11	TGP	10,520	10,521	10,522	10,522	14,437
12	AGT/TETCO	13,761	13,968	14,210	14,353 948	948
13	ANE	948	948	948		25,907
14	Sub Total	25,229	25,437	25,681	25,823	25,907
15	Storage Withdrawals					
16	LNG	480	480	480	481	480
17	AGT/TETCO	39	36	49	43	53
18	TGP	79	101	109	120	114
19	Sub Total	598	618	638	643	647
,,						
	Dartmouth AGT Capacity/Supply	1,437	1,437	1,437	1,437	1,437
20	Citygate Supplies	0	0	0	4	6
				A	07.007	27 006
21	Total	27,264	27,492	27,755	27,907	27,996

COMPANY: NSTAR Gas

Date: May 2005

Tables G-22, Back-up MASS EFSC

#### TABLE G-22 BACK-UP DATA Bbtu

### A. Design Heating Season Ending Resources

		2005-2006	2006-2007	2007-2008	2008-2009	2009-2010
	STORAGE INVENTORIES					
1 2 3	AGT STORAGE TGP STORAGE LNG	36 172 349	31 156 349	23 88 349	16 101 349	34 141 349
	PIPELINE GAS					
4	TGP	28	26	47	45	43
5	AGT / TETCO	801	690	627	570	468
6	ANE	0	0	0	0	0
	Dartmouth AGT	0	0	0	0	0

### SUPPLEMENTAL

- 7 LNG Optional Volumes
- 8 Propane Optional Volumes
- B. THERMAL-VOLUMETRIC CONVERSION FACTORS
- 9 System Average
- 10 TGP
- 11 AGT
- 12 LNG
- 13 Propane gal/Btu
- 14 Propane Btu/cf
- C. PERCENT LOSSES ASSOCIATED WITH STORAGE

Storage Field	Loss Factor
---------------	-------------

15

16

17

D.T.E. 05-46

Information Request: DTE-1-30

September 23, 2005 Person Responsible:

Page 1 of 1

# Information Request DTE-1-30

Please provide figures (showing the source of the figures) for any new industrial plants and commercial enterprises (and their capacities in terms of energy use) within the Company's service area in the past five years.

### Response

Year	Number of New Industrial/Municipal Customers	MCF	Number of New Commercial Customers	MCF
2005 YTD	12	26,500	181	420,000
2004	22	126,400	415	726,650
2003	31	169,190	388	769,000
2002	61	256,360	403	663,165
2001	48 .	307,750	355	527,350

(Source: TLAR-Technical Load Acceptance Request. This is an internal sales tracking system.)

D.T.E. 05-46

Information Request: DTE-1-31

September 23, 2005

Person Responsible: Max Gowen

Page 1 of 1

### <u>Information Request DTE-1-31</u>

Please provide figures (showing the source of the figures) for any new industrial plants and commercial enterprises (and their capacities in terms of energy use) that have been licensed or approved for construction within the Company's service area in the next five years.

### Response

Based on the Company's current tracking reports, the Company has identified approximately 20 percent of the jobs that have been licensed or approved for year 2006. Anything beyond this timeline is not identifiable, unless it is a major job, such as a power plant that requires site board planning, etc.

The Company anticipates that 2006 and beyond will be similar in load profile to 2005. The biotech sector is very strong. New construction is driven by malls and fast food. Municipal conversions and new construction remain stable, due to continued funding. Industrial customers today are solvent and marginally expanding, but new industry is scarce.

NSTAR Gas Company

Department of Telecommunications and Energy

D.T.E. 05-46

Information Request: DTE-1-32

September 23, 2005

Person Responsible: Max A. Gowen

Page 1 of 1

### Information Request DTE-1-32

Please provide a narrative description explaining the way NSTAR makes its daily and monthly gas purchase decisions.

### Response

Five days before the end of the previous month, NSTAR's Portfolio Manager contract obligates the Company to make its baseload nomination for the upcoming month. The Company generally picks a baseload nomination quantity at a level close to the projected lowest daily flowing gas requirement, based on the Company's actual experience in prior years..

On a daily basis, the Company reviews the weather forecast for the upcoming gas day from its weather services provider. It estimates load requirements based on a daily load forecasting model which uses recent relationships between EDDs and firm sendout requirements for each of the Company's four divisions. The Company then determines what supplies, in addition to the baseload purchase quantity are required to meet the forecast requirement for each of the pipeline service territories, Algonquin and Tennessee. In the early and late parts of the winter season, daily swing purchases are generally sufficient to make up the differences. If additional gas beyond the full flowing pipeline supplies is required, storage withdrawals are scheduled generally based on the contracts that have the greatest number of days of inventory remaining. During the middle part of the winter, the full flowing pipeline supply quantity is generally baseloaded so daily swing requirements are made up with storage withdrawals. When all storage supplies have been ordered, the LNG plants are instructed to prepare to vaporize LNG.

D.T.E. 05-46

Information Request: DTE-1-33

September 23, 2005

Person Responsible: Max A. Gowen

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### **Information Request DTE-1-33**

Does the Company use or test models other than the SENDOUT? If so, how does SENDOUT compare to the other models. If no, please discuss whether the Company seeks other alternatives to SENDOUT.

### Response

The Company does not use or test models other than SENDOUT, because SENDOUT has been the industry standard for many years and the Company is very confident in the Model's capability to model and properly analyze the Company's portfolio.

D.T.E. 05-46

Information Request: DTE-1-34

September 23, 2005

Person Responsible: Max A.Gowen

Page 1 of 1

### Information Request DTE-1-34

Please discuss how the Company's SENDOUT model accounts and adjusts for the purchase of spot gas.

### Response

The Company generally models its system with its firm supply and capacity contracts only. The supply contracts are modeled with market based rates in the production area tied to a NYMEX strip, plus variable pipeline costs to the Company's citygate stations, according to the provisions in the Company's contracts. If the Company were trying to model spot gas purchases in the production area, it would use the same pricing assumptions. There would be no difference in costs between spot prices and term prices.

The SENDOUT model, which is used for long-term optimization studies, uses monthly price inputs and does not incorporate daily price changes.

When the SENDOUT model indicates that the Company's portfolio has deficiencies in meeting forecast load requirements, the Company analyzes the types of portfolio additions that would best meet the requirements, based on the potential options available. The Company would not model spot supplies as a solution to a portfolio shortfall.

D.T.E. 05-46

Information Request: DTE-1-35

September 23, 2005

Person Responsible: Max Gowen

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## Information Request DTE-1-35

Please list the potential suppliers that the Company would issue RFPs to if the need arises.

### Response

The following companies currently are on the NSTAR distribution list for RFPs:

# Potential RFP Participants

AEP Florida Power
Anadarko Energy Goldman Sachs

Apachee Corp Hess

BP Merrill Lynch Commodities Inc.
Cargill New Jersey Energy Resources

Chevron Nexen

Cima Energy Noble Energy

Cinergy
Colonial Energy
ConocoPhillips
Constellation Energy
Coral Energy
Cone Nation Energy
Peoples Energy
Select Energy
Sempra Energy
Sequent Energy

Distrigas Sequent Energy
DTE Energy Sprague Energy
Sprague Energy

Duke Energy TXU El Paso Energy UBS

Emera Energy Virginia Power Energy Marketing

D.T.E. 05-46

Information Request: DTE-1-36

September 23, 2005

Person Responsible: Lisa Shea

Page 1 of 1

### Information Request DTE-1-36

Please explain in detail the demand side management programs the Company offers to its low-income and residential customers and the programs offered to its small commercial and industrial customers.

### Response

The following are program descriptions for NSTAR Gas' portfolio of energy efficiency and market transformation program offerings:

### Residential High Efficiency Heating Rebate Program

### Description and Objective

The Residential High Efficiency Heating Rebate Program is designed to promote the installation of ENERGY STAR-rated high efficiency gas furnaces and hot water boilers, and energy efficient steam boilers in residential homes. The program offers rebates for new construction and replacement equipment (i.e., lost-opportunity applications). The objective of the program is to overcome current market barriers to energy efficient equipment through the use of rebates and educational programs for customers, builder/developers, and plumbing/heating contractors.

Qualifying customers are eligible to receive a \$150, \$200, or \$500 mail-in rebate per unit installed for ENERGY STAR-rated high efficiency gas furnaces, boilers, and energy efficient steam boilers with input ratings of 300,000 BTU or less, respectively. Evidence of the success of the program is the 91% increase in the number of rebates processed by NSTAR Gas since the first year of program implementation – from 836 rebates in PY 1998 to 1597 rebates in PY 2002. Recent market share analysis and evaluation of the specific types of equipment installed indicates the majority of the rebates are for furnaces. Therefore, the Company, in conjunction with GasNetworks, adjusted the rebate levels for furnaces from \$200, to \$150, starting September 1, 2003.

GasNetworks implemented additional program changes and enhancements in response to market activity. For example, the rebate for ENERGY STAR boilers was increased from \$400 to \$500 in an attempt to stimulate this market and to offset the high incremental cost between standard efficiency and high efficiency boilers. Also, in 2003, GasNetworks, in partnership with the state's investor-owned electric utilities and the Cape Light Compact, began offering a \$400 mail-in rebate for the installation of high efficiency gas furnaces with a 92%, or greater, Annual Fuel Utilization Efficiency ("AFUE") rating equipped with electronic commutated motors ("ECMs"), or equivalent advanced furnace fan system. The dual rebate program represents the first of its kind in the country and was recently named and recognized by the American Council for an Energy Efficient Economy as an Exemplary Natural Gas Efficiency Program and cited as a model of best practices for energy efficiency programs across the nation (February 2004).

D.T.E. 05-46

Information Request: DTE-1-36

September 23, 2005

Person Responsible: Lisa Shea

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### Target Market

This program directly targets residential customers (including low-income customers and landlords) who heat their homes with gas, the builders/developers and heating/plumbing contractors who plan/install these systems, as well as the manufacturers, distributors, and wholesalers who bring this equipment to market.

# Residential High Efficiency Water Heating Rebate Program

### Description and Objective

The Residential High Efficiency Water Heating Rebate Program is designed to promote the installation of high efficiency gas water heating equipment by overcoming current market barriers. The program offers rebates for new construction and replacement equipment (i.e., lost-opportunity applications). The objective of the program is to increase the demand and market share for residential high-efficiency natural gas water heaters through rebates, education, and increased consumer/trade ally awareness about high efficiency water heating and related technologies.

Effective January 1, 2004, the Department of Energy ("DOE") increased the allowed minimum EF of natural gas waters heater from 0.54 to a new standard of 0.59. The difference in energy usage attributed to water heaters with a minimum EF of 0.59 and the energy usage of most efficient water heaters available in the market place no longer allows this type of rebate to be cost-effective for gas-fired stand-alone water heaters.

Therefore, in May 2004, the Company, in conjunction with GasNetworks, began offering a mail-in rebate for indirect water heaters. However, GasNetworks member utilities have increased the rebate from \$100 to \$300 per installed unit due to the higher first costs of this type of equipment. To qualify for the rebate, water heaters must be an indirect fired storage tank connected to a natural gas heating system (30-75 gallons).

Additionally, in March 2005, the Company, also in conjunction with GasNetworks, began offering a \$300 rebate for the installation of On-Demand instantaneous water heaters that meet or exceed an EF rating of .82 and are equipped with an IID. In keeping with GasNetworks practice, the rebate levels for instantaneous water heaters are consistent across the entire Commonwealth, thus minimizing customer, contractor and retailer confusion while taking advantage of the economies-of-scale of this type of statewide initiative.

# Target Market

D.T.E. 05-46

Information Request: DTE-1-36

September 23, 2005

Person Responsible: Lisa Shea

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This program directly targets residential customers using gas water heating equipment, the builders/developers and heating/plumbing contractors who plan/install these systems, as well as the manufacturers, distributors, and wholesalers who bring the equipment to market.

### Residential ENERGY STAR Thermostat Rebate Program

### Description and Objective

The objective of the regional GasNetworks' program is to increase and transform the market for residential energy efficient products and services. This is accomplished by providing direct savings to customers while, at the same time, making their homes more comfortable and heating bills affordable. The program is designed to induce lasting changes in the structure, function, or behavior of the market (especially at times that otherwise would result in lost opportunities) that result in an increase in the adoption of energy efficiency products and services.

Residential heating customers are eligible to receive a \$25 mail-in rebate on the purchase and installation of up to two ENERGY STAR programmable thermostats. Research has shown that by turning thermostats back 10 to 15 degrees for 8 hours each day, a customer can save about 5 to 15 percent per year on their heating bill; a savings of up to one percent for each degree if the setback period is eight hours long. Thermostats may be installed by heating contractors, homeowners, or energy auditors. Over 225 thermostat models meet ENERGY STAR standards. To be ENERGY STAR-labeled, programmable thermostats must have the following features:

- Separate weekday and weekend programs, each with up to four customized temperature settings: two for occupied and in use periods and two for energy-saving periods when the house is unoccupied or at night.
- An advanced recovery feature that can be programmed to reach desired temperature at a specific time in a way to minimize system "on" time and auxiliary heat use.
- The ability to maintain room temperature within 2 degrees (F) of the desired temperature.
- A hold feature that allows users to temporarily override automatic settings without deleting programs (e.g., programming can be adjusted to maximize savings during a vacation or extended absence).

### Target Market

D.T.E. 05-46

Information Request: DTE-1-36

September 23, 2005

Person Responsible: Lisa Shea

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This program directly targets residential customers (who heat their homes with gas that do not already use a programmable thermostat), heating and cooling contractors, and homebuilders.

### **Residential ENERGY STAR Homes Program**

### Description and Objective

The Residential ENERGY STAR Homes Program is jointly sponsored by the members of GasNetworks, Massachusetts and Rhode Island investor-owned electric utilities, and the Cape Light Compact. The goal of the program is to transform the new construction market over time so that significant market penetration is achieved and ENERGY STAR Homes are synonymous with comfort, value, and energy efficiency.

The Residential ENERGY STAR Homes Program operates by providing home energy ratings as a means of certifying compliance with the ENERGY STAR standard and helping consumers, builders, and other key market actors differentiate between efficient homes and standard homes. The program currently provides ENERGY STAR plans review, including a pre-construction meeting, post construction inspection, blower door test, and Home Energy Rating System ("HERS") certification to ENERGY STAR qualifying homes. The GasNetworks high efficiency heating and hot water heating rebates are also offered as part of the Residential ENERGY STAR Homes Program. Additional incentives for HVAC system commissioning, builder achievement incentives and direct compact fluorescent bulb installations are available through electric utility company incentives.

The certification component of the ENERGY STAR Home rating process includes a blower door test (to measure air leakage) and inspection of all the components (e.g., central heating and water heating equipment, lighting fixtures, appliances, enhanced measures) necessary to certify the home as an ENERGY STAR-rated home. The Residential ENERGY STAR Homes Program uses a scale developed by the Home Energy Rating Council to determine program compliance. The scale of the HERS ranges from 1 to 100. In order to comply with the ENERGY STAR Homes standard, a house must score 86 or better.

The Company, and other GasNetworks utility members, contributes to the program based on natural gas market share in the Massachusetts region. Presently, the Company provides 50% of the certification fee (approximately \$450) per home built in its service territory. Wherever applicable, the investor owned electric company provides the other 50% of the fee. In addition to providing incentives through rebate programs for high efficiency heating and water heating equipment, the Company also contributes to the marketing and administration fees of the program based on a dues formula developed for

D.T.E. 05-46

Information Request: DTE-1-36

September 23, 2005

Person Responsible: Lisa Shea

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GasNetworks by the JMC. The *Residential ENERGY STAR Homes Program* has recently been recognized by the U.S. Environmental Protection Agency with a 2004 Leadership in Energy Efficiency Award.

### Target Market

This program targets all elements of the new construction market, including homebuilders and buyers, heating contractors, and other trade allies throughout Massachusetts, and focus' on reaching housing for all levels of income.

### Residential Energy Star Windows Program

### Description and Objective

The Company, in conjunction with GasNetworks member utilities, has implemented the Residential ENERGY STAR Windows Program since May 2004. The Residential Energy Star Windows Program offers a rebate for the retrofit and installation of high efficiency windows in existing residential dwellings. To receive a rebate, a participant must be a residential heating customer and the window(s) installed must carry the ENERGY STAR-label and have a U-factor of .35 or less. <sup>1</sup> To obtain a rebate, the participant must send in a rebate application along with a dated sales receipt or invoice with the purchase price and a copy of the National Fenestration Rating Council ("NFRC") label(s) for the window(s) installed. Qualifying participants who purchase and install high efficiency windows are eligible to receive an incentive of ten dollars (\$10) per window up to a maximum of \$500.

### Target Market

This program directly targets homeowners and landlords in the residential market (including those in the low-income market), and remodeling contractors, manufacturers, distributors, and retailers who bring this product to market.

# Residential Weatherization Program

# Description and Objective

The Residential Weatherization Program offers a rebate to existing natural gas heating customers who are installing insulation and air sealing measures. The Company has pre-approved twenty-one contractors in its service territory to offer the weatherization

U-Factor = Measurement of thermal conductivity. A lower U-factor indicates a higher level of window insulation.

D.T.E. 05-46

Information Request: DTE-1-36

September 23, 2005

Person Responsible: Lisa Shea

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rebate to NSTAR Gas heating customers. The program is also designed to complement the one-stop delivery goal the DOER is promoting, as it is delivered in coordination with ("piggybacked on") the Residential Conservation Services ("RCS") program. The objective of Residential Weatherization Program is to reduce the amount of gas used by residential gas heating customers during the heating season, a time when customers typically consume more gas and when the cost of fuel is generally higher. Existing residential heating customers are eligible for a 50% rebate, up to a maximum of \$1,500, towards complete installation of the following measures: attic insulation, wall insulation (including venting), and blower door guided air sealing. The following program protocols apply:

- Attic insulation to a maximum of R-38 when existing insulation is less than R-19
- Ventilation to code requirements
- Wall and attic insulation where no insulation exists
- Instrumented air sealing to reduce the quantity of air infiltration into a residence when at least 100 cfm (cubic feet per minute) per man-hour reduction is achievable, and taking into consideration the health and safety inspection of the home. Air sealing measures only installed with insulation. (Not done when asbestos is present)

#### Target Market

This program directly targets existing residential gas heating customers.

### Residential Low-Income Program

# Description and Objective

The Residential Low-Income Program offers weatherization measures to eligible low-income customers. The objective of the program is to increase energy efficiency and reduce the energy cost burden for low-income customers through education and the installation of gas energy efficiency measures. The weatherization services available include an energy audit, attic insulation, wall insulation, air-sealing, heating system repair/replacement (on a qualifying basis) and safety inspections. The program allows each eligible customer to receive up to \$4,500 of these measures. When possible, the program is leveraged with Department of Energy ("DOE") weatherization funds.

Action for Boston Community Development ("ABCD"), the lead vendor, administers the program. The Company works closely with ABCD on all aspects of program design and implementation. The Community Action Program ("CAP") agencies are responsible for providing the actual weatherization services to the customer. The CAP agencies work with installation contractors to ensure that proper program guidelines are

D.T.E. 05-46

Information Request: DTE-1-36

September 23, 2005

Person Responsible: Lisa Shea

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enforced. These agencies are also responsible for ensuring that the customer meets the eligibility requirements for program participation and providing ABCD with the required documentation of all work performed.

#### Target Market

This program directly targets residential low-income customers with annual incomes at or below 60% of the state median income level. Eligible customers must be on a residential rate.

The Company works the CAP agencies to market the program to qualifying customers in their service area. Priority will be given to high use (high-energy burden) customers.

### Commercial & Industrial ("C&I") - Low-Income Multi-Family Program

#### Description and Objective

The objective of this program is to increase energy efficiency and reduce the energy cost burden for low-income customers through education and the installation of gas energy efficiency measures. The Low-Income Multi-Family Program offers the same weatherization measures offered in the Company's residential low-income program. The weatherization services and measures available include an energy audit, attic insulation, wall insulation, air-sealing, heating system repair/replacement (on a qualifying basis), and safety inspections. The program provides customer incentives of up to \$4,500 times the number of qualifying units in the dwelling (e.g., 6 family =  $6 \times 4,500$ ). When possible, the program is leveraged with DOE weatherization funds.

ABCD, the lead vendor, administers the program. The Company works closely with ABCD on all aspects of program design and implementation. The CAP agencies are responsible for providing the actual weatherization services to the customer and work with installation contractors to ensure that proper program guidelines are enforced. These agencies are also responsible for ensuring that the customer meets the eligibility requirements for program participation and providing ABCD with the required documentation of all work performed.

### Target Market

This program directly targets master metered multi-family dwellings that are on a commercial rate and house low-income residents with annual incomes at or below 60% of the state median income.

For multi-family dwellings owned and operated by public housing authorities all units can be fully funded through this program when at least 50 percent of the residents qualify as low-income. For privately owned and operated multi-family dwellings, only the qualifying low-income residents and a proportional amount of the common areas can

D.T.E. 05-46

Information Request: DTE-1-36

September 23, 2005

Person Responsible: Lisa Shea

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receive funding through this program. The CAP agency then determines the availability of outside funding or may negotiate a co-payment from the owner. The Company works with the CAP agencies to market the program to qualifying customers in their service area.

### Commercial and Industrial ("C&I") Infrared Rebate Program

### Description and Objective

In conjunction with the Company's ongoing collaborative efforts with GasNetworks, NSTAR Gas continues to offer rebates for low intensity, gas infrared space heaters through the *C&I Infrared Rebate Program*. The *C&I Infrared Rebate Program* provides incentives for the installation of qualifying, low intensity infrared equipment. Qualifying customers are eligible to receive \$500 per unit installed, with a maximum rebate of \$2,500 (i.e., up to 5 units) per gas account. Consistent with other GasNetworks efforts, this program is intended to increase awareness of the benefits of energy efficient equipment and offer information on the benefits of this technology.

### Target Market

Gas infrared heaters include design elements that provide high efficiency opportunities for many C&I applications. The program targets all eligible C&I customer classes, as well as installation and equipment vendors.

### **C&I High Efficiency Heating Rebate Program**

# Description and Objective

The C&I High Efficiency Heating Rebate Program mirrors the residential program and is designed to promote the installation of ENERGY STAR-rated high efficiency gas furnaces and hot water boilers, and energy efficient steam boilers in C&I properties. The objective of the program is to overcome current market barriers to this equipment through rebates, education and awareness of customers, landlords, business owners, and plumbing/heating contractors.

Qualifying customers are eligible to receive a mail-in rebate, ranging from \$150 -\$500, per unit installed for ENERGY STAR-rated high efficiency gas furnaces and boilers, and energy efficient steam boilers with input ratings of 300,000 BTU or less. The actual rebate amount is a function of the type of heating appliance installed and its efficiency rating. Ongoing market share analysis and evaluation of residential and C&I equipment being installed indicates a majority of the rebate applications are for furnaces.

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### Target Market

This program directly targets C&I customers, business owners, and landlords who heat their businesses with gas, heating/plumbing contractors who plan/install these systems, as well as the manufacturers, distributors, and wholesalers who bring this equipment to market.

### C&I High Efficiency Water Heating Rebate Program

### Description and Objective

The C&I High Efficiency Water Heating Rebate Program is designed to promote the installation of high efficiency gas water heating equipment by overcoming current market barriers. The program offers rebates for new and replacement equipment (i.e., lost-opportunity applications). The objective of the program is to increase the demand and market share for C&I high-efficiency natural gas water heaters through rebates, education, and increased consumer/trade ally awareness about high efficiency water heating and related technologies.

Effective January 1, 2004, the DOE increased the allowed minimum EF of natural gas water heaters from 0.54 to a new standard of 0.59. The difference in energy usage attributed to water heaters with a minimum EF of 0.59 and the energy usage of most efficient water heaters available in the market place no longer allows this type of rebate to be cost-effective for gas-fired stand-alone water heaters.

Therefore, in May 2004, the Company, in conjunction with GasNetworks, began offering a mail-in rebate for indirect water heaters. However, GasNetworks member utilities have increased the rebate from \$100 to \$300 per installed unit due to the higher first costs of this type of equipment. To qualify for the rebate, water heaters must be an indirect fired storage tank connected to a natural gas heating system (30-75 gallons).

Additionally, in March 2005, the Company, also in conjunction with GasNetworks, began offering a \$300 rebate for the installation of On-Demand instantaneous water heaters that meet or exceed an EF rating of .82 and are equipped with an IID. In keeping with GasNetworks practice, the rebate levels for instantaneous water heaters are consistent across the entire Commonwealth, thus minimizing customer, contractor and retailer confusion while taking advantage of the economies-of-scale of this type of statewide initiative.

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This program directly targets C&I customers using gas water heating equipment, landlords, business owners, and heating/plumbing contractors who plan/install these systems, as well as the manufacturers, distributors, and wholesalers who bring the equipment to market.

### **C&I ENERGY STAR Thermostat Rebate Program**

### Description and Objective

The objective of the regional GasNetworks' program is to increase and transform the market for C&I energy efficient products and services. This is accomplished by providing direct savings to C&I customers while, at the same time, making their facilities more comfortable and affordable to operate. The program is designed to induce lasting changes in the structure, function, or behavior of the market that result in an increase in the adoption of energy efficiency products and services.

In the regional GasNetworks program, C&I heating customers are eligible to receive a \$25 mail-in rebate on the purchase and installation of up to two ENERGY STAR programmable thermostats. Research has shown that by turning thermostats back 10 to 15 degrees for 8 hours each day, a customer can save about 5 to 15 percent per year on their heating bill; a savings of up to one percent for each degree if the setback period is eight hours long. Thermostats may be installed by heating contractors, business owners, maintenance staff, or energy auditors. Over 225 thermostat models meet ENERGY STAR standards.

To be ENERGY STAR-labeled, programmable thermostats must have the following features:

- Separate weekday and weekend programs, each with up to four customized temperature settings: two for occupied and in use periods and two for energy-saving periods when the building is unoccupied or at night.
- An advanced recovery feature that can be programmed to reach desired temperature at a specific time in a way to minimize system "on" time and auxiliary heat use.
- The ability to maintain room temperature within 2 degrees (F) of the desired temperature.
- A hold feature that allows users to temporarily override automatic settings without deleting programs (e.g., programming can be adjusted to maximize savings during a time when the business is closed).

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### Target Market

This program directly targets small to medium C&I customers (who heat their facilities with natural gas and do not already use a programmable thermostat), heating and cooling contractors, and developers.

### **C&I Efficient Food Service Equipment Rebate Program**

### Description and Objective

The Company, in conjunction with GasNetworks, is offering rebates of \$300 or \$500 for the installation of high efficiency "hot oil" type fryers. Program eligibility requires that a fryer use a *minimum* of 15% less gas to produce the same amount of cooked product as a 'standard' efficiency fryer of similar capacity. GasNetworks' research identified an initial group of 20 high efficiency fryers. Additionally, all ENERGY STAR-rated fryers are eligible for a rebate. Depending on brand and model, the \$300 and \$500 rebates amount to approximately 50% of the *incremental* cost of the eligible high efficiency equipment. Only fryers accepted and listed by the Company (through GasNetworks) are eligible for these rebates. It is anticipated that additional brands and models of energy efficient fryers will be included in the eligibility list. The rebates are paid through a mailin application form and all installations are subject to inspection.

The objective of this program is to promote the widespread use of this energy efficient technology in a market segment that, by its operational nature, tends to use energy rather inefficiently.

# Target Market

Virtually all food service operations that provide hot food employ at least one fryer in their food preparation equipment mix. This includes restaurants, school and institutional kitchens, office cafeterias and catering establishments. Fryers are also used in a variety of manufacturers that produce retail packaged food products.

# **C&I Custom Program**

# Description and Objective

The Custom Program is designed to offer incentives to C&I customers for the installation of high efficiency "new technologies" available in the marketplace, as well as traditional building envelope measures. Such natural gas fired "new technologies" include desiccant dehumidification, condensing boilers and furnaces, cogeneration, energy efficient control systems, induced draft water heaters, and other qualifying measures.

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The Company offers customers a dual rebate methodology, Incremental Cost Basis and the Energy Saving Basis, to determine customer incentives. To accomplish this, the Company will either provide a one time rebate to the customer in an amount equal to 50% of the incremental cost to design, purchase, and install the qualifying "new technology" or provide a one time rebate to the customer in an amount equal to 100% of the projected first year energy savings derived form the operation of the qualifying "new technology". Rebates will be determined on whichever amount is greater. However, recognizing the potential for a significant number of rebate applications and/or individually large rebate amounts, the Company reserves the right to establish a rebate cap.

Additionally, the Company requires participating customers to agree to the overall terms and conditions associated with the program detailed in the pre-approval process. As a condition of participation, customers are required to, among other conditions, allow for performance data collection and up to five visits by the Company over five years for demonstration and training efforts. This allows the Company the opportunity to monitor performance, collect data, and provide information on installed "new technologies" for educational and training endeavors.

Starting in 2004, the Company proposes to offer an incentive of \$1.00/therm for gas displaced by "waste" heat recovered from small (< 300 KW) gas fueled packaged cogeneration machines. This recovered "waste" heat provides the customer with hot water, steam or heated air that would otherwise have been produced by a gas fueled boiler, furnace or water heater. Not only does cogeneration use fuel more efficiently, it also reduces emissions.

The Custom Program offers an educational and training component for C&I customers, trade allies, and installation and equipment vendors.

# Target Market

The Custom Program targets all eligible C&I customers as well as trade allies, and installation and equipment vendors.